AMENDMENTS TO THE CLAIMS

The listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims

1. (Currently amended) A light amplifying fiber comprising:

a first waveguide for transmitting excitation light;

a second waveguide ~~composed of~~ including a core containing a laser medium for ~~and~~ generating laser light and a clad for transmitting the excitation light, wherein the core is surrounded by the clad, and the second waveguide is different from the first wave guide; and

a third waveguide ~~including~~ surrounding the first waveguide and the second waveguide, [[;]]

wherein refractive indices of the first waveguide, the clad of the second waveguide, the core of the second waveguide and the third waveguide are respectively denoted by n1, n2, n3 and n4 satisfy a relation: $n1 < n4 < n2 < n3$.

2. (Withdrawn) The light amplifying fiber according to claim 1, wherein the first waveguide has a shape in which a sectional area of a surface perpendicular to a longitudinal direction of the first waveguide is gradually decreased in the longitudinal direction.

3. (Withdrawn) The light amplifying fiber according to claim 2, wherein an interval between the first waveguide and the second waveguide is constant in the longitudinal direction of the first waveguide.

4. (Withdrawn) A light amplifying fiber comprising in a longitudinal direction thereof:

at least one idle region for transmitting excitation light and at least one filling region for filling the excitation light in a waveguide containing a laser medium;

wherein the idle region comprises a first waveguide for transmitting the excitation light, a second waveguide composed of a core for generating laser light and a clad for transmitting the excitation light, and a third waveguide including the first waveguide and the second waveguide;

refractive indices of the first waveguide, the clad of the second waveguide, the core of the second waveguide and the third wave guide respectively denoted by n1, n2, n3 and n4 satisfy a relation: $n1<n4<n2<n3$, and

the filling region includes the second waveguide and the third waveguide.

5. (Withdrawn) The light amplifying fiber according to claim 4, wherein the third waveguide is provided with an idle region in which excitation light is not present.

6. (Withdrawn) The light amplifying fiber according to claim 4, wherein the idle region and the filling region are separately provided.

7. (Currently Amended) The light amplifying fiber according to claim 1, ~~any one of claims 1 to 6,~~ wherein an outer circumference of the third waveguide is provided with an outer layer for confining excitation light in the third waveguide, and refractive indices of the outer layer and the third waveguide respectively denoted by n5 and n4 satisfy a relation: $n5 < n4$.

8. (Original) The light amplifying fiber according to claim 7, wherein the outer layer is formed of glass.

9. (Withdrawn) The light amplifying fiber according to claim 7, wherein the outer layer is formed of fluororesin.

10. (Withdrawn) The light amplifying fiber according to claim 1 or 4, comprising a plurality of the first waveguides.

11. (Withdrawn) The light amplifying fiber according to claim 1 or 4, wherein the third waveguide is formed of ultraviolet curable resin.

12. (Currently Amended) The light amplifying fiber according to claim 1 ~~or 4~~, wherein the third wave guide comprises a refractive index matching material or a refractive index matching solution.

13. (Currently Amended) The light amplifying fiber according to claim 1 ~~or 4~~, wherein at least a part of a cross-sectional shape of the second waveguide and the third waveguide has a linear shape.

14. (Currently Amended) The light amplifying fiber according to claim 1 ~~or 4~~, wherein a diameter of the core ~~diameter is~~ corresponds to a size for transmitting a single mode.

15. (Currently Amended) The light amplifying fiber according to claim 1 ~~or 4~~, wherein the laser medium is composed of an rare earth element.

16. (Currently Amended) The light amplifying fiber according to claim 1 ~~or 4~~, wherein the light amplifying fiber has a feedback means for feeding back light emitted from the light amplifying fiber.

17. (Original) The light amplifying fiber according to claim 16, wherein the feedback means is a FBG (Fiber Bragg Grating).

18. (Current1y Amended) A light amplifying method using an excitation source for emitting excitation light and a light amplifying fiber according to any one of claims 1, 7, 8, or 12-15 [[1 to 15]], wherein the excitation light is allowed to enter a the first waveguide of the light amplifying fiber.

19. (Currently Amended) An laser oscillation method using an excitation source for emitting excitation light, a light amplifying fiber according to any one of claims 1, 7, 8, or 12-15 [[1 to 15]], and a means for feeding back light generated in the light amplifying fiber, wherein the excitation light is allowed to enter ~~a~~ the first waveguide of the light amplifying fiber so as to oscillate laser light.

20. (Currently Amended) A laser amplifying apparatus comprising an excitation source for emitting excitation light and a light amplifying fiber according to any one of claims 1, 7, 8, or

12-15 [[1 to 15]], wherein the excitation light is allowed to enter ~~a~~ the first waveguide of the light amplifying fiber.

21. (Currently Amended) A laser oscillation apparatus comprising an excitation source for emitting excitation light, a light amplifying fiber according to any one of claims 1, 7, 8, or 12-15 [[1 to 15]], and a means for feeding back light generated in the light amplifying fiber, wherein the excitation light is allowed to enter ~~a~~ the first waveguide of the light amplifying fiber so as to oscillate the laser light.

22. (Currently Amended) A laser apparatus comprising:

a) a laser oscillation apparatus comprising:

an excitation source for emitting excitation light; and

a light amplifying fiber comprising:

first waveguide for transmitting the excitation light;

a second waveguide including a core containing a laser medium for generating laser light and a clad for transmitting the excitation light, wherein the core is surrounded by the clad, and the second waveguide is different from the first wave guide; and

a third waveguide surrounding the first waveguide and the second waveguide;

wherein refractive indices of the first waveguide, the clad of the second waveguide, the core of the second waveguide and the third waveguide are respectively denoted by n1, n2, n3 and n4 satisfy a relation: $n1 < n4 < n2 < n3$; and

b) a laser amplifying apparatus comprising:

another excitation source for emitting another excitation light; and

another light amplifying fiber comprising:

another first waveguide for transmitting the another excitation light;

another second waveguide including another core containing a laser medium for generating laser light and another clad for transmitting the another excitation light, wherein the another core is surrounded by the another clad, and the another second waveguide is different from the another first wave guide; and

another third waveguide surrounding the another first waveguide and the another second waveguide; and

c) a means for guiding light emitted from the laser oscillation apparatus to the laser amplifying apparatus.

~~a means for guiding light emitted from a laser oscillation apparatus according to claim 21 to a laser amplifying apparatus according to claim 20.~~

23. (Withdrawn) A laser apparatus, wherein the guiding means is a fiber, one end of the fiber is fused to a laser oscillation apparatus according to claim 21 and another end of the fiber is fused to a laser amplifying apparatus according to claim 20.

24. (Currently Amended) The laser apparatus according to claim 22 ~~or 23~~, wherein the excitation source is a semiconductor laser.

25. (Withdrawn) The laser apparatus according to any one of claims 22 to 24, wherein the excitation light of the semiconductor laser is transmitted by a fiber and the fiber is connected to a first waveguide.

26. (Currently Amended) A laser processing machine using a laser apparatus according to any one of claims 22 ~~to 25~~ and 24.

27. (New) A laser processing machine using a laser apparatus according to claim 22, wherein an outer circumference of the third waveguide is provided with an outer layer for confining excitation light in the third waveguide, and refractive indices of the outer laver and the third waveguide respectively denoted by n5 and n4 satisfy a relation: $n5 < n4$ and an outer circumference of the another third waveguide is provided with another outer layer for confining excitation light in the another third waveguide, and refractive indices of the outer layer and the another third waveguide respectively denoted by n5 and n4 satisfy a relation: $n5 < n4$.

28. (New) A laser processing machine using a laser apparatus according to claim 27, wherein the outer layer and the another outer layer are formed of glass and the another.

29. (New) A laser processing machine using a laser apparatus according to claim 22, wherein the third waveguide and the another third waveguide respectively comprise a refractive index matching material or a refractive index matching solution.

30. (New) A laser processing machine using a laser apparatus according to claim 22, wherein at least a part of a cross-sectional shape of the second waveguide and the third waveguide has a linear shape, and at least a part of a cross-sectional shape of the another second waveguide and the another third waveguide has a linear shape.

31. (New) A laser processing machine using a laser apparatus according to claim 22, wherein each of diameters of the core and the another core corresponds a size for transmitting a single mode.

32. (New) A laser processing machine using a laser apparatus according to claim 22, wherein the laser medium is composed of a rare earth element.

33. (New) A laser processing machine using a laser apparatus according to any one of claims 27 and 32.